

Occurrence of the Costate Riversnail, *Oxytrema catenaria* (Say), in Virginia (Gastropoda: Pleuroceridae)

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As currently interpreted (e.g., by Burch, 1989), *Oxytrema catenaria* Say, 1822¹ is a complex of five subspecies ranging from Florida to Virginia, with the nominate race confined to eastern South Carolina.

Occurring in Piedmont streams across both Carolinas and into eastern Virginia is the northern element of the group, *O. catenaria dislocata* (Reeve, 1861), a taxon the relationship of which to the nominate "subspecies" requires re-examination. The most recent synopsis of this group was published just over 50 years ago (Goodrich, 1942). Whether the two names refer to species, subspecies, or innominate phenotypic variation remains to be settled by modern systematic studies, including comparative protein and/or DNA analyses.

The status of this form as a member of the Virginia fauna rests solely upon the record by Goodrich (op.cit) for "Greenville Co." without further attribution. Inquiry into possible sources finally located the cited material at the Carnegie Museum, with the data

"Accn. 7894 *Goniobasis dislocata*, Ortmann
Aug 22, 1926, Fontaine Creek, Rockbridge
School, Greenville Co VA"

Ortmann's locality on Fontaine Creek is at the present crossing of Va. Rte 639, ca. 5 miles (8 km) southwest of the center of Emporia. He must have come into Emporia by rail, and hired a wagon for transport to rural sites such as Rockbridge School and Slagle's Mill (where he obtained unionids). The school building no longer exists.

O. catenaria is in fact widespread and often abundant in many streams of "Southside Virginia" as collections in recent years have shown, and as is attested by the map that accompanies this note.

Material (all in VMNH and collected by the author except as noted): **Brunswick Co.:** Meherrin River at Va. 670 bridge, 2 October 1988; Nottoway River at Va. 609 bridge, 1 October 1988, with *Mudalia*. **Campbell Co.:** Falling River at Va. 643 bridge, ca 2 miles (3.5 km) northeast of Naruna, 10 April 1988; Falling River at confluence with Hat Creek, Va. 605, ca 2 miles (3.5 km) north of Brookneal, 10 April 1988. **Dinwiddie Co.:** Stony Creek at Va. 646 bridge, ca 4 mi (6.4 km) west Dinwiddie C.H., 4 August 1991, with *Mudalia*. **Greenville Co.:** Nottoway River at Va. 619 bridge, 5 mi. (8 km) NW of Jarratt, 6 October 1989, with *Mudalia* and *Oxytrema virginica*. **Lunenburg Co.:** South Meherrin River at Va. 634 bridge, ca 4 miles (6.3 km) south of Rehoboth, 9 May 1988. **Mecklenburg Co.:** "Bluestone River" [=Bluestone Creek], north of Clarksville (site probably inundated by Buggs Island Lake), J. P. E. Morrison (USNM). **Pittsylvania Co.:** Banister River at Va. 640 bridge, south of Mount Airy, 2 April 1988, with *Mudalia* sp. **Southampton Co.:** Nottoway River at Va. 653 bridge, 3 mi west of Sebrell, date **Sussex Co.:** Nottoway River at Va. 626 bridge, 4 miles (6.4 km) north of Sussex C. H., 17 June 1988, with *Mudalia* and *Oxytrema virginica*.

It has been possible to delimit the northern extent of the species' range with considerable confidence. It appears to stop somewhat short of the James River drainage basin, in south-flowing streams of the Roanoke and Chowan river systems. In many places, it co-exists with a local form of *Mudalia*, in those cases showing a somewhat greater tendency to occur on

¹ The rationale advanced by Morrison (1954: 359) for use of the generic name *Oxytrema* of Rafinesque is far more convincing to me than those justifying adoption of the much younger name *Elimia* H. & A. Adams.

the sandy stream bed than on rocks, which the mudalia seems to prefer. Only rarely has *catenaria* been found in company with other species of *Oxytrema*, as indicated in the preceding list of specimens examined. Its only incursion into the Coastal Plain seems to be along the relatively pristine Nottoway River. Downstream from Franklin, Virginia, the Nottoway becomes lentic and deep, and does not appear propitious for the species. Recent examination of the Meherrin River at several sites below Emporia have not produced *catenaria* despite apparently suitable habitat.

Systematic searches to locate the species further north, toward the headwaters of Falling River in Campbell County and Cub Creek in Charlotte, have been routinely negative, as have extended surveys in the Appomattox drainage. Nor has field work in the same drainages by staff of the Division of Natural Heritage been more successful.

The relatively large populations at peripheral localities suggest that the species was expanding its range at the time of European colonization, after which fragmentation was effected by human impacts (e.g., intensive cultivation of tobacco in Southside Virginia). Curiously, *catenaria* occurs farthest upstream and west in the Roanoke drainage (Banister River), likewise far upstream but not so far west in the Meherrin, and apparently not much beyond the Fall Line in the Nottoway where nonetheless it is abundant. Assuming a northward spread through Piedmont drainages, the system to be occupied first and longest in Virginia would have been the

Roanoke, followed by Meherrin and Nottoway in that order. Possibly *catenaria* has just not had enough time to occupy Piedmont reaches of the Nottoway, for its absence from which there is no obvious *a priori* reason.

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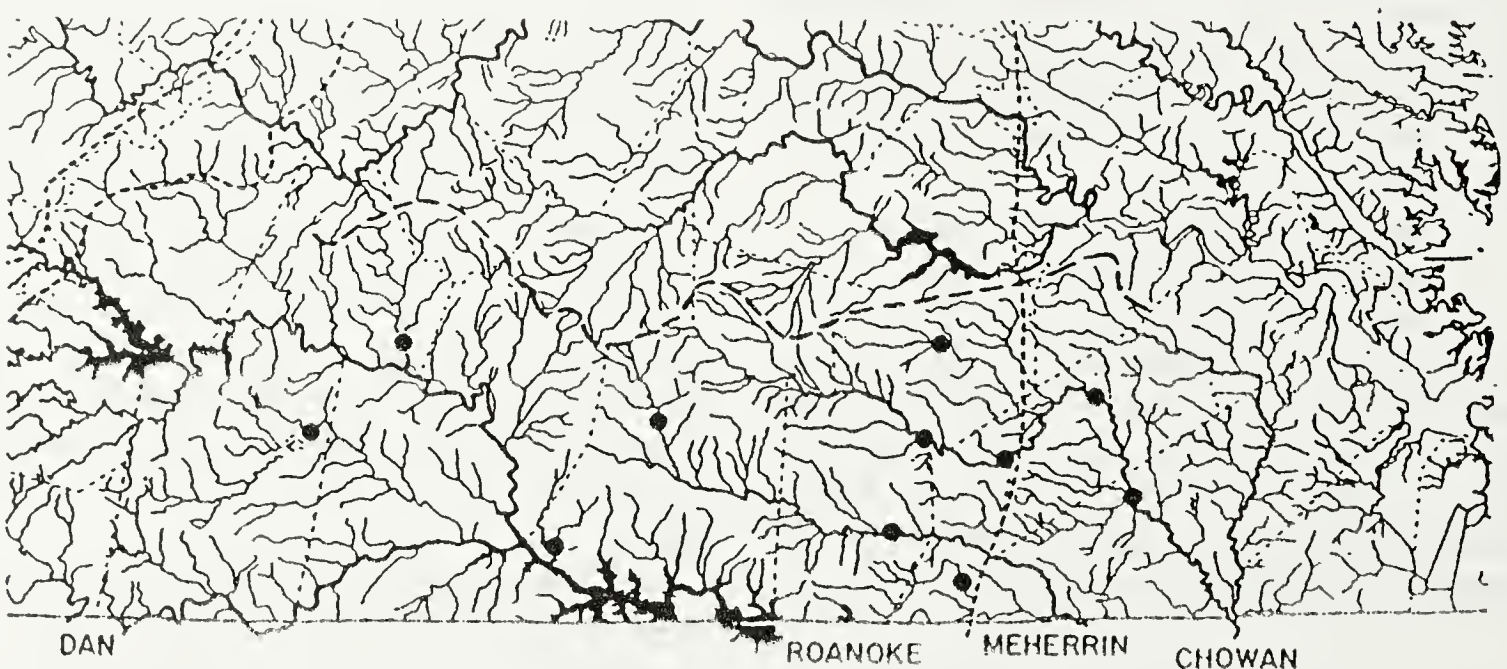


Figure 1. Central and eastern Virginia, showing known localities for *Oxytrema catenaria* (Say). The east-west dashed line follows the divide between the James River basin and the Chowan-Roanoke basins to the south. North-south dotted line to the right side is the approximate course of the "Fall Line". Major rivers are identified along the bottom margin.